

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

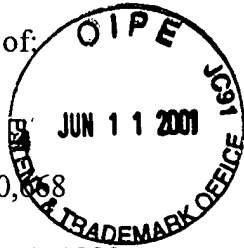
4/Response
T. Steptoe
6/19/01

In re Application of:

Bridges

Serial No. 09/610,668

Filed: November 11, 1999

For: METHOD AND APPARATUS FOR
SUB-MICRON IMAGING AND
PROBING ON PROBE STATION

Examiner: Kerveros, J.

Art Unit: 2858

Box Non-Fee Amendment
Assistant Commissioner for Patents
Washington, DC 20231RESPONSE TO OFFICE ACTION

Sir:

Responsive to the Office Action mailed March 7, 2001 the Applicants request the Examiner to consider the following remarks.

REMARKS

Claims pending in the instant application are numbered 1-33. Claims 1-33 presently stand rejected. The Applicants respectfully request reconsideration of the present application in view of the following remarks.

35 U.S.C. § 102 Rejection

In the March 7, 2001 Office Action, claims 1, 2, 4, 6-9, 15-18, 23-27, 30 and 33 are rejected under 35 U.S.C. § 102(e) as being anticipated by Lindsay et al., US Patent Number 5,983,712.

Example independent claim 1 of the Applicants' invention expressly recites a cantilever, having a tip, which is attached to a second positioning unit, which is attached

to a probe arm, which is attached to a first positioning unit. Claim 1 expressly recites that the claimed first positioning unit is configured to be optionally added onto a probe station platform. A motion sensor is configured to detect motion of the cantilever.

As summarized on page 7, lines 10-20, of the Applicants specification, the presently claimed invention provides a way to preserve a user's investment in a traditional probe station. One embodiment of the presently claimed invention can be *optionally added* to a traditional probe station, which may otherwise not be equipped to provide probing with a cantilever, as expressly claimed according to the Applicants' invention.

Lindsay is directed to an atomic force microscope and method of operation. Lindsay fails to disclose, teach or fairly suggest a probe apparatus including a first positioning unit that is configured to be *optionally added* onto a probe station platform, as expressly recited in the Applicants' present claims. In the March 7, 2001 Office Action, actuator 1 in FIG. 3A of Lindsay is characterized as a "first positioning unit." In column 3, lines 1-2, Lindsay states that "actuator 1 is held in a fixed position, as a rigid part of the cantilever assembly 2."

The Applicants respectfully submit that a fair reading of Lindsay suggests that the actuator 1 is a *fixed* structure included with the atomic force microscope described in Lindsay. Indeed, Lindsay fails to disclose, teach or fairly suggest that the addition of actuator 1 to the atomic force microscope is *optional*, as expressly recited in the presently claimed invention.

Independent claims 23 and 30 distinguish over Lindsay for the same reasons as claim 1 as claim 23 recites "*optionally adding* a probe apparatus to a probe station platform." Claim 30 expressly recites "first positioning means for coarse positioning configured to be *optionally added* onto a probe station platform." Dependent claims 2, 4,

6-9, 15-18, 23-27 and 33 are dependent claims and distinguish for at least the same reasons as their respective independent base claims in addition to adding further limitations of their own.

35 U.S.C. § 103 Rejection

In the March 7, 2001 Office Action, claims 3, 5, 10-14, 19-22, 28, 29, 31 and 32 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Lindsay, as applied to claims 1, 23 and 30, in view of Hellemans et al., US Patent Number 6,091,248.

Hellemans is directed to a method for measuring the electrical potential in a semiconductor element. Hellemans describes an electrometer 10, which measures the electrical potential through probe 3 of the semiconductor device 1. Hellemans discloses in column 4, lines 45-50, that the semiconductor element 1 is mounted movable three-dimensionally with a piezo-crystal 2. Thus, the force or distance of probe 3 relative to the semiconductor element 1 is adjusted or calibrated by moving the semiconductor element 1 with piezo-crystal 2.

Accordingly, the Applicants respectfully submit that Hellemans also fails to disclose, teach or fairly suggest a first positioning unit that is configured to be optionally added onto a probe station platform as expressly recited in the Applicants claims. The Applicants respectfully submit that a fair reading of Hellemans suggests that the piezo-crystal 2 is a fixed structure on which the semiconductor element 1, not the probe 3, is moved. Hellemans fails to disclose, teach or fairly suggest that that the addition of piezo-crystal 2 to the atomic force microscope is *optional*, as expressly recited in the presently claimed invention.

The Applicants further note that claims 3, 5, 10-14, 19-22, 28, 29, 31 and 32 are dependent claims, which distinguish for at least the same reasons as their respective independent base claims in addition to adding further limitations of their own.

Accordingly, since at least one or more expressly recited elements of the presently claimed invention are not disclosed, taught or fairly suggested in the prior art references of record, the Applicants respectfully submit that presently claimed invention is neither anticipated nor rendered obvious in view of Lindsay or Hellemans, whether taken singularly or in combination. Therefore, the Applicants respectfully request that the instant section 102 and 103 rejections be withdrawn and that the presently claimed invention is in condition for allowance.

The Applicants respectfully request that a timely Notice of Allowance be issued in this case.

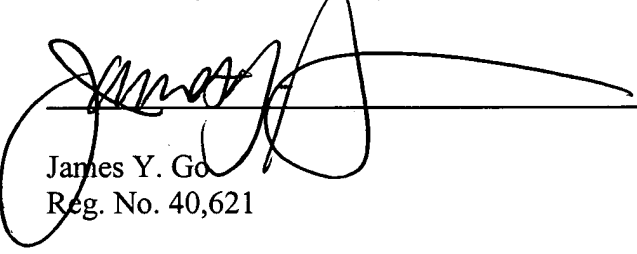
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Please charge our Deposit Account No. 02-2666 for any additional fee due in this matter.

Respectfully submitted,

BLAKELY, SOKOLOFF, TAYLOR & ZAFMAN

Date: 6-4-01


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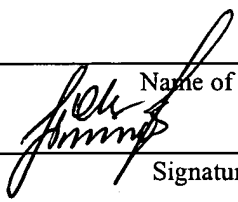
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